This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

1.-34. (Cancelled)

35.   (New) A method for receiving from a transmitter a digital message having N digits, wherein each of the N digits has any one of M values, and wherein each of the M values corresponds to one of M chaotic signal generators for the transmitter, the method comprising:

          receiving, by a receiver, a chaotic signal from the transmitter; and

          evaluating, by the receiver, the chaotic signal to determine which one of the M values the chaotic signal conveys;

          wherein said evaluating includes determining, by the receiver, which one of the M chaotic signal generators of the transmitter generated the chaotic signal;

          wherein said determining which one of the M chaotic signal generators generated the chaotic signal includes determining, by the receiver, a chaotic characteristic value for the chaotic signal and comparing the determined chaotic characteristic value to a plurality of chaotic characteristic values stored on the receiver and correspondingly associated with the M chaotic signal generators; and

          wherein said determining a chaotic characteristic value for the chaotic signal is based, at least in part, on a chaotic algorithm associated with the M chaotic signal generators known to the receiver, and wherein each of the M chaotic signal generators is associated with the chaotic algorithm and has a different chaotic characteristic value.

36.   (New) The method of Claim 35, wherein said determining a chaotic characteristic value for the chaotic signal is based, at least in part, on a chaotic algorithm associated with the M chaotic signal generators known to the receiver comprises:

constructing, by the receiver, a return map having a plurality of points and using successive pairs of numbers from the chaotic signal; and

fitting, by the receiver, points on the return map to the chaotic algorithm to generate the chaotic characteristic value for the chaotic signal.

37.   (New) The method of Claim 35, wherein M equals 2, wherein each of the N digits has a value of either 0 or 1, and wherein the chaotic signal comprises a series of numbers transmitted within a bit period.

38.   (New) The method of Claim 37, wherein the chaotic algorithm is $y = m[0.5 - 2|x|]$, where x is an input number, m is the chaotic characteristic value, and y is one of the numbers within the bit period forming the chaotic signal.

39.   (New) A receiver for receiving from a transmitter a digital message having N digits, wherein each of the N digits has any one of M values, and wherein each of the M values corresponds to one of M chaotic signal generators for the transmitter, the receiver comprising:

a demodulator configured to evaluate a chaotic signal received from the transmitter to determine which one of the M values the chaotic signal conveys;

wherein the evaluation includes determining which one of the M chaotic signal generators for the transmitter generated the chaotic signal;

wherein said determining which one of the M chaotic signal generators generated the chaotic signal includes determining a chaotic characteristic value for the chaotic signal and comparing the determined chaotic characteristic value to a

plurality of chaotic characteristic values stored on the receiver and correspondingly associated with the M chaotic generators; and

wherein said determining a chaotic characteristic value for the chaotic signal is based, at least in part, on a chaotic algorithm associated with the M chaotic signal generators known to the receiver, and wherein each of the M chaotic signal generators is associated with the chaotic algorithm and has a different chaotic characteristic value.

40.   (New) The receiver of Claim 39, wherein the receiver is configured to determine the chaotic characteristic value for the chaotic signal based, at least in part, on a chaotic algorithm associated with the M chaotic signal generators known to the receiver by:

constructing a return map having a plurality of points and using successive pairs of numbers from the chaotic signal; and

fitting points on the return map to the chaotic algorithm to generate the chaotic characteristic value for the chaotic signal.

41.   (New) The receiver of Claim 39, wherein M equals 2, and wherein each of the N digits has a value of either 0 or 1.

42.   (New) The receiver of Claim 41, wherein the chaotic algorithm is $y = m[0.5 - 2|x|]$, where x is an input number, m is the chaotic characteristic value, and y is one of the numbers within the bit period forming the chaotic signal.